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<110> Endo, Keiji  
Ozaki, Katsuya

<120> Modified promoter

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<141> 2006-08-18

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<151> 2006-03-04

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&lt;213&gt; Baccillus sp. KSM-64

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Arg Asn Met Met Ile Ile Phe Ala Asp Val Glu Ser Asp Phe Ala Gly  
 705 710 715 720

Arg Val Phe Val Asp Asn Val Arg Phe Glu Gly Ala Ala Thr Thr Glu  
 725 730 735

Pro Val Glu Pro Glu Pro Val Asp Pro Gly Glu Glu Thr Pro Pro Val  
 740 745 750

Asp Glu Lys Glu Ala Lys Lys Glu Gln Lys Glu Ala Glu Lys Glu Glu  
 755 760 765

Lys Glu Ala Val Lys Glu Glu Lys Lys Glu Ala Lys Glu Glu Lys Lys  
 770 775 780

Ala Ile Lys Asn Glu Ala Thr Lys Lys  
 785 790

<210> 7  
 <211> 572  
 <212> DNA  
 <213> Bacillus sp. KSM-S237

<400> 7  
 gatttgccga tgcaacaggc ttatatttag aggaaatttc tttttaaaatt gaatacggaa 60  
 taaaatcagg taaacaggct ctgattttat ttttttgagt ttttttagaga actgaagatt 120  
 gaaataaaag tagaagacaa aggacataag aaaattgcat tagttttaat tatagaaaac 180  
 gcctttttat aattatttat acctagaacg aaaatactgt ttcgaaagcg gtttactata 240  
 aaaccttata ttccggctct tttttaaaac agggggtaaa aattcactct agtattctaa 300  
 tttcaacatg ctataataaa tttgtaagac gcaatatgca tctctttttt tacgatatat 360  
 gtaagcgggtt aaccttgtgc tatatgccga tttaggaagg ggggtagaat atttcaagta 420  
 gtaataacat acaatactta taagttgttg agaagcagga gagcatctgg gttactcaca 480  
 agttttttta aaactttaac gaaagcactt tcggtaatgc ttatgaattt agctatttga 540  
 ttcaattact ttaaaaatat ttaggaggtta at 572

<210> 8  
 <211> 609  
 <212> DNA  
 <213> Bacillus sp. KSM-64

295199US0PCT.ST25.txt

```

<400> 8
agtacttacc attttagagt caaaagatag aagccaagca ggatttgccg atgcaaccgg      60
cttatattta gaggggaattt ctttttaa at tgaatacggga ataaaatcag gtaaacaggt    120
cctgatttta tttttttgaa tttttttgag aactaaagat tgaaatagaa gtagaagaca      180
acggacataa gaaaattgta ttagtittta ttatagaaaa cgcttttcta taattattta      240
tacctagaac gaaaatactg tttcgaaagc ggtttactat aaaaccttat attccggctc      300
ttttttttaa caggggggtga aaattcactc tagtattcta atttcaacat gctataataa      360
atttgtaaga cgcaatatac atcttttttt tatgatattt gtaagcgggtt aaccttggtgc     420
tatatgccga ttttaggaagg gggtagaata tttcaagtag taataacata caatacttat      480
aagttgttga gaagcaggag agaatctggg ttactcacia gtttttttaa acattatcga      540
aagcactttc ggttatgctt atgaatttag ctatttgatt caattacttt aataatttta      600
ggaggtaat                                         609

```

```

<210> 9
<211> 37
<212> DNA
<213> Artificial sequence

```

```

<220>
<223> oligonucleotide as PCR primer designed from nucleotide sequence
of Bacillus sp. KSM-S237 gene for cellulase; the sequence with a
insertion of the BamHI restriction site at the 5'-end

```

```

<400> 9
ttgcgatcc aacaggctta tatttagagg aaatttc                                         37

```

```

<210> 10
<211> 40
<212> DNA
<213> Artificial sequence

```

```

<220>
<223> oligonucleotide as PCR primer designed from nucleotide sequence
of Bacillus sp. KSM-S237 gene for cellulase; the sequence
containing eight nucleotides substitution for SigmaE recognition

```

```

<400> 10
gtatgttatt actacttgaa atattctacc ccccttccta                                         40

```

```

<210> 11
<211> 39
<212> DNA
<213> Artificial sequence

```

```

<220>
<223> oligonucleotide as PCR primer designed from nucleotide sequence
of Bacillus sp. KSM-S237 gene for cellulase; the sequence
containing eight nucleotides substitution for SigmaE recognition

```

```

<400> 11

```

atattttcaag tagtaataac atacaatact tataagttg

39

<210> 12  
 <211> 20  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <223> oligonucleotide as PCR primer designed from nucleotide sequence  
 of Bacillus sp. KSM-S237 gene for cellulase

<400> 12  
 tcgctaccct tttattatcg

20

<210> 13  
 <211> 1795  
 <212> DNA  
 <213> Bacillus sp. KSM-K38

<400> 13  
 caggccagcc aaagtagcca ccaactaagt aacatcgatt caggataaaa gtatgcgaaa 60  
 cgatgcgcaa aactgcgcaa ctactagcac tcttcaggga ctaaaccacc ttttttccaa 120  
 aaatgacatc atataaaciaa atttgtctac caatcactat ttaaagctgt ttatgatata 180  
 tgtaagcggt atcattaaaa ggagggtattt gatgagaaga tgggtagtag caatggtggc 240  
 agtggttattt ttattttcctt cggtagtagt tgcagatgga ttgaacggta cgatgatgca 300  
 gtattatgag tggcatttgg aaaacgacgg gcagcattgg aatcggttgc acgatgatgc 360  
 cgcagctttg agtgatgctg gtattacagc tattttggatt ccgccagcct acaaaggtaa 420  
 tagtcaggcg gatggtgggt acggtgcata cgatctttat gatttaggag agttcaatca 480  
 aaaggggtact gttcgaacga aatacgaac taaggcacag cttgaacgag ctattgggtc 540  
 ccttaaactt aatgatatac atgtatacgg agatgtcgtg atgaatcata aaatgggagc 600  
 tgatttttacg gaggcagtgc aagctgttca agtaaatacca acgaatcggt ggcaggatat 660  
 ttcagggtgcc tacacgattg atgctgtggac ggggtttcgac ttttcagggc gtaacaacgc 720  
 ctattcagat ttttaagtga gatggttcca ttttaattggt gttgactggg atcagcgcta 780  
 tcaagaaaat catattttcc gctttgcaaa tacgaactgg aactggcgag tggatgaaga 840  
 gaacggtaat tatgattacc tgtaggatc gaatatcgac tttagtcac cagaagtaca 900  
 agatgagttg aaggattggg gtagctgggt taccgatgag ttagatttgg atggttatcg 960  
 tttagatgct attaaacata ttccattctg gtatacatct gattgggttc ggcacacg 1020  
 caacgaagca gatcaagatt tatttgtcgt aggggaatat tggaaggatg acgtagggtg 1080  
 tctcgaattt tatttagatg aaatgaattg ggagatgtct ctattcgatg ttccacttaa 1140  
 ttataatttt taccgggctt cacaacaagg tggaagctat gatatgcgta atatttttacg 1200  
 aggatcttta gtagaagcgc atccgatgca tgcagttacg tttgttgata atcatgatac 1260

## 295199USOPCT.ST25.txt

tcagccaggg gagtcattag agtcatgggt tgctgattgg tttaagccac ttgcttatgc 1320  
gacaattttg acgcgtgaag gtggttatcc aaatgtatgt tacgggtgatt actatgggat 1380  
tcctaacgat aacatttcag ctaaaaaaga tatgattgat gagctgcttg atgcacgtca 1440  
aaattacgca tatggcacgc agcatgacta ttttgatcat tgggatgttg taggatggac 1500  
tagggaagga tcttcctcca gacctaattc aggccttgcg actattatgt cgaatggacc 1560  
tggtgggttcc aagtggatgt atgtaggacg tcagaatgca ggacaaacat ggacagattt 1620  
aactggtaat aacggagcgt ccgttacaat taatggcgat ggatggggcg aattctttac 1680  
gaatggagga tctgtatccg tgtacgtgaa ccaataacaa aaagccttga gaagggattc 1740  
ctccctaact caaggctttc tttatgtcgc ttagctttac gcttctacga ctttg 1795

<210> 14  
<211> 480  
<212> PRT  
<213> Bacillus sp. KSM-K38

<400> 14

Asp Gly Leu Asn Gly Thr Met Met Gln Tyr Tyr Glu Trp His Leu Glu  
1 5 10 15

Asn Asp Gly Gln His Trp Asn Arg Leu His Asp Asp Ala Ala Ala Leu  
20 25 30

Ser Asp Ala Gly Ile Thr Ala Ile Trp Ile Pro Pro Ala Tyr Lys Gly  
35 40 45

Asn Ser Gln Ala Asp Val Gly Tyr Gly Ala Tyr Asp Leu Tyr Asp Leu  
50 55 60

Gly Glu Phe Asn Gln Lys Gly Thr Val Arg Thr Lys Tyr Gly Thr Lys  
65 70 75 80

Ala Gln Leu Glu Arg Ala Ile Gly Ser Leu Lys Ser Asn Asp Ile Asn  
85 90 95

Val Tyr Gly Asp Val Val Met Asn His Lys Met Gly Ala Asp Phe Thr  
100 105 110

Glu Ala Val Gln Ala Val Gln Val Asn Pro Thr Asn Arg Trp Gln Asp  
115 120 125

Ile Ser Gly Ala Tyr Thr Ile Asp Ala Trp Thr Gly Phe Asp Phe Ser  
130 135 140

Gly Arg Asn Asn Ala Tyr Ser Asp Phe Lys Trp Arg Trp Phe His Phe  
 145 150 155 160  
 Asn Gly Val Asp Trp Asp Gln Arg Tyr Gln Glu Asn His Ile Phe Arg  
 165 170 175  
 Phe Ala Asn Thr Asn Trp Asn Trp Arg Val Asp Glu Glu Asn Gly Asn  
 180 185 190  
 Tyr Asp Tyr Leu Leu Gly Ser Asn Ile Asp Phe Ser His Pro Glu Val  
 195 200 205  
 Gln Asp Glu Leu Lys Asp Trp Gly Ser Trp Phe Thr Asp Glu Leu Asp  
 210 215 220  
 Leu Asp Gly Tyr Arg Leu Asp Ala Ile Lys His Ile Pro Phe Trp Tyr  
 225 230 235 240  
 Thr Ser Asp Trp Val Arg His Gln Arg Asn Glu Ala Asp Gln Asp Leu  
 245 250 255  
 Phe Val Val Gly Glu Tyr Trp Lys Asp Asp Val Gly Ala Leu Glu Phe  
 260 265 270  
 Tyr Leu Asp Glu Met Asn Trp Glu Met Ser Leu Phe Asp Val Pro Leu  
 275 280 285  
 Asn Tyr Asn Phe Tyr Arg Ala Ser Gln Gln Gly Gly Ser Tyr Asp Met  
 290 295 300  
 Arg Asn Ile Leu Arg Gly Ser Leu Val Glu Ala His Pro Met His Ala  
 305 310 315 320  
 Val Thr Phe Val Asp Asn His Asp Thr Gln Pro Gly Glu Ser Leu Glu  
 325 330 335  
 Ser Trp Val Ala Asp Trp Phe Lys Pro Leu Ala Tyr Ala Thr Ile Leu  
 340 345 350  
 Thr Arg Glu Gly Gly Tyr Pro Asn Val Phe Tyr Gly Asp Tyr Tyr Gly  
 355 360 365  
 Ile Pro Asn Asp Asn Ile Ser Ala Lys Lys Asp Met Ile Asp Glu Leu  
 370 375 380  
 Leu Asp Ala Arg Gln Asn Tyr Ala Tyr Gly Thr Gln His Asp Tyr Phe  
 385 390 395 400

Asp His Trp Asp Val Val Gly Trp Thr Arg Glu Gly Ser Ser Ser Arg  
                   405                  410                  415

Pro Asn Ser Gly Leu Ala Thr Ile Met Ser Asn Gly Pro Gly Gly Ser  
                   420                  425                  430

Lys Trp Met Tyr Val Gly Arg Gln Asn Ala Gly Gln Thr Trp Thr Asp  
                   435                  440                  445

Leu Thr Gly Asn Asn Gly Ala Ser Val Thr Ile Asn Gly Asp Gly Trp  
                   450                  455                  460

Gly Glu Phe Phe Thr Asn Gly Gly Ser Val Ser Val Tyr Val Asn Gln  
                   465                  470                  475                  480

<210> 15  
 <211> 25  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <223> oligonucleotide as PCR primer designed from nucleotide sequence  
 of Bacillus sp. KSM-S237 gene for cellulase; the sequece with a  
 insertion of the BamHI restriction site at the 5'-end

<400> 15  
 cccgcatcca acaggcttat attta 25

<210> 16  
 <211> 29  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <223> oligonucleotide as PCR primer; its 3'-portion designed from  
 nucleotide sequence of Bacillus sp. KSM-S237 gene for cellulase  
 and its 5'-portion designed from nucleotide sequence of Bacillus  
 sp. KSM-K38 gene for amylase

<400> 16  
 ttcaatccat ctgctgcaag agctgccgg 29

<210> 17  
 <211> 30  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <223> oligonucleotide as PCR primer; its 3'-portion designed from nucle  
 otide sequence of Bacillus sp. KSM-K38 gene for amylase and its  
 5'-portion designed from nucleotide sequence of Bacillus sp.  
 KSM-S237 gene for cellulase

<400> 17  
 gctcttgacg cagatggatt gaacggtacg 30

<210> 18  
 <211> 30  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <223> oligonucleotide as PCR primer designed from nucleotide sequence of Bacillus sp. KSM-K38 gene for amylase; the sequece with a insertion of the XbaI restriction site at the 5'-end

<400> 18  
 ttggtctaga cccaagctt caaagtcgta 30

<210> 19  
 <211> 27  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <223> A promoter sequence recognized by SigE

<400> 19  
 atatttcaag tagtaataac atacaat 27

<210> 20  
 <211> 27  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <223> original sequence in an alkaline cellulase gene

<400> 20  
 ttgagtcgaag tagtaataat atagata 27